

SEQUENCE LISTING

5 <110> Fader, Gary M
 Famodu, Omolayo O.
 Huang, Lisa
 McGonigle, Brian
 Silva, Alexandre da
 Tao, Yong
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 50 Lys Ala Cys Val Arg Ala Lys Gly Val Lys Arg Val Ile Leu Thr Ser
 35 40 45
 Ser Ala Ala Ala Val Thr Ile Asn Gln Leu Lys Gly Thr Asp Leu Val
 50 55 60
 55 Met Asp Glu Ser Asn Trp Thr Asp Val Glu Tyr Leu Ser Thr Ala Lys
 65 70 75 80
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85 90 95

Ala Trp Lys Phe Ala Glu Glu Asn His Ile Asp Leu Ile Thr Val Ile
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35 40 45

Leu Asp Leu Pro Gly Ala Glu Ser Lys Leu Ser Leu Trp Lys Ala Glu
50 55 60

60 Leu Thr Glu Glu Gly Ser Phe Asp Glu Ala Ile Lys Gly Cys Thr Gly

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| | Val Phe His Leu | Ala Thr Pro Val Asp Phe Lys Ser Lys Asp Pro Glu | | | | | |
| | | 85 | | 90 | | 95 | |
| 5 | Asn Glu Met Ile | Lys Pro Thr Ile Gln Gly Val Leu Asn Ile Met Lys | | | | | |
| | | 100 | | 105 | | 110 | |
| 10 | Ala Cys Leu Lys | Ala Lys Thr Val Arg Arg Leu Val Phe Thr Ser Ser | | | | | |
| | | 115 | | 120 | | 125 | |
| | Ala Gly Thr Thr | Asn Ile Thr Glu His Gln Lys Pro Ile Ile Asp Glu | | | | | |
| | | 130 | | 135 | | 140 | |
| 15 | Thr Cys Trp Thr | Asp Val Glu Phe Cys Arg Arg Leu Asn Met Thr Gly | | | | | |
| | | 145 | | 150 | | 155 | |
| | Trp Met Tyr Phe | Val Ser Lys Thr Leu Ala Glu Lys Glu Ala Trp Lys | | | | | |
| | | 165 | | 170 | | 175 | |
| 20 | Phe Ala Lys Glu | His Gly Met Asp Phe Ile Ala Ile Leu Pro Ala Leu | | | | | |
| | | 180 | | 185 | | 190 | |
| | Val Ile Gly Pro | Phe Leu Leu Pro Thr Met Pro Ser Ser Val Ile Ser | | | | | |
| | | 195 | | 200 | | 205 | |
| 25 | Ala Leu Ser Pro | Ile Asn Gly Ile Glu Ala His Tyr Ser Ile Ile Lys | | | | | |
| | | 210 | | 215 | | 220 | |
| 30 | Gln Ala Gln Phe | Val His Ile Glu Asp Ile Cys Leu Ala His Ile Phe | | | | | |
| | | 225 | | 230 | | 235 | |
| | Leu Phe Glu Gln | Pro Lys Ala Glu Gly Arg Tyr Ile Cys Ser Ala Cys | | | | | |
| | | 245 | | 250 | | 255 | |
| 35 | Asp Val Thr Ile | His Asp Ile Val Lys Leu Ile Asn Glu Lys Tyr Pro | | | | | |
| | | 260 | | 265 | | 270 | |
| | Glu Tyr Lys Val | Pro Thr Lys Phe Gln Asn Ile Pro Asp Gln Leu Glu | | | | | |
| | | 275 | | 280 | | 285 | |
| 40 | Pro Val Arg Phe | Ser Ser Lys Lys Ile Thr Asp Leu Gly Phe Gln Phe | | | | | |
| | | 290 | | 295 | | 300 | |
| 45 | Lys Tyr Ser Leu | Glu Asp Met Tyr Thr Gly Ala Ile Asp Thr Cys Ile | | | | | |
| | | 305 | | 310 | | 315 | |
| | Glu Lys Gly Leu | Leu Pro Lys Pro Ala Glu Ile Pro Ala Asn Gly Ile | | | | | |
| | | 325 | | 330 | | 335 | |
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40 Arg Ala Thr Val Leu Asp Pro Ala Asp Met Arg Glu Val Lys His Leu
 35 40 45

Leu Asp Leu Pro Gly Ala Glu Ser Lys Leu Ser Leu Trp Lys Ala Glu
 50 55 60

45 Leu Thr Glu Glu Gly Ser Phe Asp Glu Ala Ile Lys Gly Cys Thr Gly
 65 70 75 80

Val Phe His Leu Ala Thr Pro Val Asp Phe Lys Ser Lys Asp Pro Glu
 85 90 95

50 Asn Glu Met Ile Lys Pro Thr Ile Gln Gly Val Leu Asn Ile Met Lys
 100 105 110

55 Ala Cys Leu Lys Ala Lys Thr Val Arg Arg Leu Val Phe Thr Ser Ser
 115 120 125

Ala Gly Thr Thr Asn Ile Thr Glu His Gln Lys Pro Ile Ile Asp Glu
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15 Lys Ala Cys Val Arg Ala Lys Gly Val Lys Arg Val Ile Leu Thr Ser
35 40 45

20 Ser Ala Ala Ala Val Thr Ile Asn Gln Leu Lys Gly Thr Asp Leu Val
50 55 60

Met Asp Glu Ser Asn Trp Thr Asp Val Glu Tyr Leu Ser Thr Ala Lys
65 70 75 80

25 Pro Pro Thr Trp Gly Tyr Pro Ala Ser Lys Ala Leu Ala Glu Lys Ala
85 90 95

Ala Trp Lys Phe Ala Glu Glu Asn His Ile Asp Leu Ile Thr Val Ile
100 105 110

30 Pro Thr Leu Thr Thr Gly Pro Ser Val Thr Thr Asp Ile Pro Ser Ser
115 120 125

35 Val Gly Met Ala Ala Ser Leu Ile Thr Gly Asn Asp Phe Leu Ile Asn
130 135 140

Ala Leu Lys Gly Met Gln Leu Leu Ser Gly Ser Ile Ser Ile Thr His
145 150 155 160

40 Val Glu Asp Ile Cys Arg Ala Gln Ile Phe Val Ala Glu Lys Glu Ser
165 170 175

Ala Ser Gly Arg Tyr Ile Cys Cys Ala His Asn Thr Ser Val Pro Glu
180 185 190

45 Leu Ala Lys Phe Leu Ser Lys Arg Tyr Pro Gln Tyr Lys Ile Pro Thr
195 200 205

50 Glu Phe Asp Asp Cys Pro Ser Lys Ala Lys Leu Ile Ile Ser Ser Glu
210 215 220

Lys Leu Val Lys Glu Gly Phe Ser Phe Lys Tyr Gly Ile Glu Glu Ile
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 30 <213> Triticum aestivum

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 35 40 45
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 50 55 60
 55 Asp Leu Leu Glu Glu Gly Ser Phe Asp Asp Ala Val Met Ala Cys Glu
 65 70 75 80
 Gly Val Phe His Thr Ala Ser Pro Ile Ile Thr Asn Ala Asp Ser Lys
 85 90 95
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Glu Glu Met Leu Asp Ser Ala Ile Asn Gly Thr Leu Asn Val Leu Arg
 100 105 110
 5 Ser Cys Lys Lys Asn Pro Phe Leu Lys Arg Val Val Leu Thr Ser Ser
 115 120 125
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 130 135 140
 10 Leu Leu Asp Glu Thr Ser Trp Ser Ser Val Glu Phe Cys Glu Ser Ile
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| | Arg | Ala | Thr | Val | Arg | Asp | Pro | Ala | Asn | Val | Glu | Lys | Asn | Lys | Pro | Leu |
| | | | 35 | | | | | 40 | | | | | 45 | | | |
| 5 | Leu | Glu | Leu | Pro | Gly | Ala | Lys | Glu | Arg | Leu | Ser | Ile | Trp | Lys | Ala | Asp |
| | | 50 | | | | | 55 | | | | | 60 | | | | |
| | Leu | Ser | Glu | Glu | Gly | Ser | Phe | Asp | Asp | Ala | Ile | Ala | Gly | Cys | Thr | Gly |
| | 65 | | | | | 70 | | | | | 75 | | | | | 80 |
| 10 | Val | Phe | His | Val | Ala | Thr | Pro | Met | Asp | Phe | Asp | Ser | Gln | Asp | Pro | Glu |
| | | | | | 85 | | | | | 90 | | | | | 95 | |
| | Asn | Glu | Val | Ile | Lys | Pro | Thr | Val | Glu | Gly | Met | Leu | Ser | Ile | Met | Arg |
| 15 | | | | 100 | | | | | 105 | | | | | 110 | | |
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| | | | 115 | | | | | 120 | | | | | 125 | | | |
| 20 | Ala | Gly | Ser | Val | Asn | Ile | Glu | Glu | Arg | Gln | Arg | Pro | Ala | Tyr | Asp | Gln |
| | | 130 | | | | | 135 | | | | | 140 | | | | |
| | Asp | Asn | Trp | Ser | Asp | Ile | Asp | Phe | Cys | Arg | Arg | Val | Lys | Met | Thr | Gly |
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| 25 | Trp | Met | Tyr | Phe | Val | Ser | Lys | Ser | Leu | Ala | Glu | Lys | Ala | Ala | Met | Glu |
| | | | | | 165 | | | | | 170 | | | | | 175 | |
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| 35 | Ala | Leu | Ala | Leu | Ile | Thr | Gly | Asn | Glu | Ala | His | Tyr | Ser | Ile | Leu | Lys |
| | | 210 | | | | | 215 | | | | | 220 | | | | |
| | Gln | Val | Gln | Leu | Val | His | Leu | Asp | Asp | Leu | Cys | Asp | Ala | Met | Thr | Phe |
| | 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| 40 | Leu | Phe | Glu | His | Pro | Glu | Ala | Asn | Gly | Arg | Tyr | Ile | Cys | Ser | Ser | His |
| | | | | | 245 | | | | | 250 | | | | | 255 | |
| | Asp | Ala | Thr | Ile | His | Gly | Leu | Ala | Arg | Met | Leu | Arg | Asp | Arg | Phe | Pro |
| 45 | | | | 260 | | | | | 265 | | | | | 270 | | |
| | Glu | Tyr | Ser | Ile | Pro | Gln | Lys | Phe | Ala | Gly | Val | Asp | Asp | Asp | Leu | Gln |
| | | | 275 | | | | | 280 | | | | | 285 | | | |
| 50 | Pro | Ile | His | Phe | Ser | Ser | Lys | Lys | Leu | Leu | Asp | His | Gly | Phe | Ser | Phe |
| | | 290 | | | | | 295 | | | | | 300 | | | | |
| | Arg | Tyr | Thr | Ala | Glu | Asp | Met | Phe | Asp | Ala | Ala | Ile | Arg | Thr | Cys | Arg |
| | 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| 55 | Glu | Lys | Gly | Leu | Ile | Pro | Leu | Gly | Asp | Ala | Pro | Pro | Pro | Ala | Ala | Gly |
| | | | | | 325 | | | | | 330 | | | | | 335 | |
| | Gly | Lys | Leu | Gly | Ala | Leu | Ala | Ala | Gly | Glu | Gly | Gln | Ala | Ile | Gly | Ala |
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 <213> Triticum aestivum

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Val Leu Gly Thr Val Arg Asp Pro Gly Asn Gln Lys Lys Val Ala His
 35 40 45

50
 Leu Trp Asn Leu Ala Gly Ala Lys Glu Gly Leu Glu Leu Val Arg Ala
 50 55 60

55
 Asp Leu Leu Glu Glu Gly Ser Phe Asp Asp Ala Val Met Ala Cys Glu
 65 70 75 80

Gly Val Phe His Thr Ala Ser Pro Ile Ile Thr Asn Ala Asp Ser Lys
 85 90 95

60
 Glu Glu Met Leu Asp Ser Ala Ile Asn Gly Thr Leu Asn Val Leu Arg
 100 105 110

Ser Cys Lys Lys Asn Pro Phe Leu Lys Arg Val Val Leu Thr Ser Ser
 115 120 125
 5 Ser Ser Thr Met Arg Leu Arg Asp Glu Ala Glu Phe Pro Pro Asn Val
 130 135 140
 Leu Leu Asp Glu Thr Ser Trp Ser Ser Val Glu Phe Cys Glu Ser Ile
 145 150 155 160
 10 Gln Ile Trp Tyr Ala Val Ala Lys Ile Leu Ala Glu Lys Ser Ala Trp
 165 170 175
 Glu Phe Ala Lys Glu Asn Asn Ile Asp Leu Val Ala Val Leu Pro Thr
 180 185 190
 15 Phe Ile Ile Gly Pro Asn Leu Ser Pro Val Leu Gly Pro Thr Ala Ser
 195 200 205
 20 Asp Val Leu Gly Leu Phe Lys Gly Glu Thr Glu Lys Phe Thr Ile Phe
 210 215 220
 Gly Arg Met Gly Tyr Val His Ile Asp Asp Val Ala Ser Cys His Ile
 225 230 235 240
 25 Leu Val Tyr Glu Thr Ala Asp Ala Lys Gly Arg Tyr Ile Cys Asn Ser
 245 250 255
 Ala Val Leu Asp Ser Asn Glu Leu Val Ala Leu Leu Ala Lys Arg Phe
 260 265 270
 30 Pro Ser Phe Pro Ile Pro Lys Ser Leu Pro Asn Ile Tyr Gly Glu Gln
 275 280 285
 35 Thr Tyr Gly Tyr Asn Thr Ser Lys Ile Arg Lys Leu Gly Leu Glu Phe
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 Arg Gly Val Glu Glu Met Phe Asp Asp Ser Val Glu Ser Leu Lys Ala
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 40 His Gly Tyr Leu Arg Glu Gly Ala Ala
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 <213> Triticum aestivum
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 ggctcgatcat gaagctcctc caggccgggt acacggtccg ggccaccgtg cgcgacccgg 180
 ccaacggttga gaagaacaag ccgttgctgg agcttcccg agccaaggag cggctgtcca 240
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 tcaaaccacac ggtggaagg atgctgagca tcatgagggc ctgcaaggag gctggcaccg 420
 tgaagcgcat cgtcttcacc tcctccgccc gcagcgtaaa catcgaggag cggcagcggc 480
 cagcctacga ccaggacaac tggagcgaca tcgacttctg ccgccgcgtc aagatgacag 540
 60 gatggatgta cttcgtgtcc aagtcctctc cagagaaggc cgccatggag tacgccagcg 600

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agaacggcct ggacttcatac agcatcatcc ccacgctcgt agtcggcccg ttcctcagcg 660
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gagctcttgc tgcgggcaaa ggccaagcca ttggtgccga gacataataa gccagcgctg 1140
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30 Arg Ala Thr Val Arg Asp Pro Ala Asn Val Glu Lys Asn Lys Pro Leu
35 40 45

30 Leu Glu Leu Pro Gly Ala Lys Glu Arg Leu Ser Ile Trp Lys Ala Asp
50 55 60

35 Leu Ser Asp Glu Gly Ser Phe Asp Asp Ala Ile Ala Gly Cys Thr Gly
65 70 75 80

Val Phe His Val Ala Thr Pro Met Asp Phe Asp Ser Lys Asp Pro Glu
85 90 95

40 Asn Glu Val Ile Lys Pro Thr Val Glu Gly Met Leu Ser Ile Met Arg
100 105 110

Ala Cys Lys Glu Ala Gly Thr Val Lys Arg Ile Val Phe Thr Ser Ser
115 120 125

45 Ala Gly Ser Val Asn Ile Glu Glu Arg Gln Arg Pro Ala Tyr Asp Gln
130 135 140

50 Asp Asn Trp Ser Asp Ile Asp Phe Cys Arg Arg Val Lys Met Thr Gly
145 150 155 160

Trp Met Tyr Phe Val Ser Lys Ser Leu Ala Glu Lys Ala Ala Met Glu
165 170 175

55 Tyr Ala Ser Glu Asn Gly Leu Asp Phe Ile Ser Ile Ile Pro Thr Leu
180 185 190

Val Val Gly Pro Phe Leu Ser Ala Gly Met Pro Pro Ser Leu Val Thr
195 200 205
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Ala Leu Ala Leu Ile Thr Gly Asn Glu Ala His Tyr Ser Ile Leu Lys
 210 215 220
 5 Gln Val Gln Leu Val His Leu Asp Asp Leu Cys Asp Ala Met Thr Phe
 225 230 235 240
 Leu Phe Glu His Pro Glu Ala Asn Gly Arg Tyr Ile Cys Ser Ser His
 245 250 255
 10 Asp Ala Thr Ile His Gly Leu Ala Arg Met Leu Arg Asp Arg Phe Pro
 260 265 270
 Glu Tyr Ser Ile Pro His Lys Phe Ala Gly Val Asp Asp Asp Leu Gln
 275 280 285
 15 Pro Ile His Phe Ser Ser Lys Lys Leu Leu Asp His Gly Phe Ser Phe
 290 295 300
 20 Arg Tyr Thr Ala Glu Asp Met Phe Asp Ala Ala Ile Arg Thr Cys Arg
 305 310 315 320
 Glu Lys Gly Leu Ile Pro Leu Gly Asp Ala Pro Ala Pro Ala Ala Ala
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 25 Gly Lys Leu Gly Ala Leu Ala Ala Gly Lys Gly Gln Ala Ile Gly Ala
 340 345 350
 Glu Thr
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 35 <213> Glycine max
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 40 Ile Gly Ser Trp Leu Val Met Arg Leu Ile Glu Arg Gly Tyr Thr Val
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 45 Arg Ala Thr Val Arg Asp Pro Val Asn Met Lys Lys Val Lys His Leu
 35 40 45
 Val Glu Leu Pro Gly Ala Lys Ser Lys Leu Ser Leu Trp Lys Ala Asp
 50 55 60
 50 Leu Ala Glu Glu Gly Ser Phe Asp Glu Ala Ile Lys Gly Cys Thr Gly
 65 70 75 80
 Val Phe His Val Ala Thr Pro Met Asp Phe Glu Ser Lys Asp Pro Glu
 85 90 95
 55 Asn Glu Val Ile Lys Pro Thr Ile Asn Gly Val Leu Asp Ile Met Lys
 100 105 110
 60 Ala Cys Leu Lys Ala Lys Thr Val Arg Arg Leu Ile Phe Thr Ser Ser
 115 120 125

Ala Gly Thr Leu Asn Val Ile Glu Arg Gln Lys Pro Val Phe Asp Asp
 130 135 140
 5 Thr Cys Trp Ser Asp Val Glu Phe Cys Arg Arg Val Lys Met Thr Gly
 145 150 155 160
 Trp Met Tyr Phe Val Ser Lys Thr Leu Ala Glu Lys Glu Ala Trp Lys
 165 170 175
 10 Phe Ala Lys Glu Gln Gly Leu Asp Phe Ile Thr Ile Ile Pro Pro Leu
 180 185 190
 Val Val Gly Pro Phe Leu Met Pro Thr Met Pro Pro Ser Leu Ile Thr
 195 200 205
 15 Ala Leu Ser Pro Ile Thr Gly Asn Glu Asp His Tyr Ser Ile Ile Lys
 210 215 220
 20 Gln Gly Gln Phe Val His Leu Asp Asp Leu Cys Leu Ala His Ile Phe
 225 230 235 240
 Leu Phe Glu Glu Pro Glu Val Glu Gly Arg Tyr Ile Cys Ser Ala Cys
 245 250 255
 25 Asp Ala Thr Ile His Asp Ile Ala Lys Leu Ile Asn Gln Lys Tyr Pro
 260 265 270
 Glu Tyr Lys Val Pro Thr Lys Phe Lys Asn Ile Pro Asp Gln Leu Glu
 275 280 285
 30 Leu Val Arg Phe Ser Ser Lys Lys Ile Thr Asp Leu Gly Phe Lys Phe
 290 295 300
 35 Lys Tyr Ser Leu Glu Asp Met Tyr Thr Gly Ala Ile Asp Thr Cys Arg
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 40 Pro Gly Glu Thr Pro Val Asn Ala Met His Lys
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 <213> Arabidopsis thaliana
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 Ser Gly Tyr Lys Val Asn Thr Thr Val Arg Asp Pro Glu Asn Glu Lys
 35 40 45
 60 Lys Ile Ala His Leu Arg Gln Leu Gln Glu Leu Gly Asp Leu Lys Ile

| | 50 | 55 | 60 |
|----|---|---------|---------|
| | Phe Lys Ala Asp Leu Thr Asp Glu Asp Ser Phe Glu Ser Ser Phe Ser | | |
| | 65 | 70 | 75 80 |
| 5 | Gly Cys Glu Tyr Ile Phe His Val Ala Thr Pro Ile Asn Phe Lys Ser | | |
| | | 85 90 | 95 |
| 10 | Glu Asp Pro Glu Lys Asp Met Ile Lys Pro Ala Ile Gln Gly Val Ile | | |
| | | 100 105 | 110 |
| | Asn Val Leu Lys Ser Cys Leu Lys Ser Lys Ser Val Lys Arg Val Ile | | |
| | | 115 120 | 125 |
| 15 | Tyr Thr Ser Ser Ala Ala Ala Val Ser Ile Asn Asn Leu Ser Gly Thr | | |
| | | 130 135 | 140 |
| | Gly Leu Val Met Asn Glu Glu Asn Trp Thr Asp Ile Asp Phe Leu Thr | | |
| | | 145 150 | 155 160 |
| 20 | Glu Glu Lys Pro Phe Asn Trp Gly Tyr Pro Ile Ser Lys Val Leu Ala | | |
| | | 165 170 | 175 |
| 25 | Glu Lys Lys Ala Trp Glu Phe Ala Glu Glu Asn Lys Ile Asn Leu Val | | |
| | | 180 185 | 190 |
| | Thr Val Ile Pro Ala Leu Ile Ala Gly Asn Ser Leu Leu Ser Asp Pro | | |
| | | 195 200 | 205 |
| 30 | Pro Ser Ser Leu Ser Leu Ser Met Ser Phe Ile Thr Gly Lys Glu Met | | |
| | | 210 215 | 220 |
| | His Val Thr Gly Leu Lys Glu Met Gln Lys Leu Ser Gly Ser Ile Ser | | |
| | | 225 230 | 235 240 |
| 35 | Phe Val His Val Asp Asp Leu Ala Arg Ala His Leu Phe Leu Ala Glu | | |
| | | 245 250 | 255 |
| 40 | Lys Glu Thr Ala Ser Gly Arg Tyr Ile Cys Cys Ala Tyr Asn Thr Ser | | |
| | | 260 265 | 270 |
| | Val Pro Glu Ile Ala Asp Phe Leu Ile Gln Arg Tyr Pro Lys Tyr Asn | | |
| | | 275 280 | 285 |
| 45 | Val Leu Ser Glu Phe Glu Glu Gly Leu Ser Ile Pro Lys Leu Thr Leu | | |
| | | 290 295 | 300 |
| | Ser Ser Gln Lys Leu Ile Asn Glu Gly Phe Arg Phe Glu Tyr Gly Ile | | |
| | | 305 310 | 315 320 |
| 50 | Asn Glu Met Tyr Asp Gln Met Ile Glu Tyr Phe Glu Ser Lys Gly Leu | | |
| | | 325 330 | 335 |
| 55 | Ile Lys Ala Lys Glu Ser | | |
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| | <211> 354 | | |
| 60 | <212> PRT | | |

<213> Hordeum vulgare

<400> 19

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 35 40 45
 Leu Glu Leu Pro Gly Ala Lys Glu Arg Leu Ser Ile Trp Lys Ala Asp
 50 55 60
 15 Leu Ser Glu Asp Gly Ser Phe Asn Glu Ala Ile Ala Gly Cys Thr Gly
 65 70 75 80
 20 Val Phe His Val Ala Thr Pro Met Asp Phe Asp Ser Gln Asp Pro Glu
 85 90 95
 Asn Glu Val Ile Lys Pro Thr Val Glu Gly Met Leu Ser Ile Met Arg
 100 105 110
 25 Ala Cys Lys Glu Ala Gly Thr Val Lys Arg Ile Val Phe Thr Ser Ser
 115 120 125
 Ala Gly Ser Val Asn Ile Glu Glu Arg Pro Arg Pro Ala Tyr Asp Gln
 130 135 140
 30 Asp Asn Trp Ser Asp Ile Asp Tyr Cys Arg Arg Val Lys Met Thr Gly
 145 150 155 160
 35 Trp Met Tyr Phe Val Ser Lys Ala Leu Ala Glu Lys Ala Ala Met Glu
 165 170 175
 Tyr Ala Ser Glu Asn Gly Leu Asp Phe Ile Ser Ile Ile Pro Thr Leu
 180 185 190
 40 Val Val Gly Pro Phe Leu Ser Ala Gly Met Pro Pro Ser Leu Val Thr
 195 200 205
 Ala Leu Ala Leu Ile Thr Gly Asn Glu Ala His Tyr Ser Ile Leu Lys
 210 215 220
 45 Gln Val Gln Leu Val His Leu Asp Asp Leu Cys Asp Ala Met Thr Phe
 225 230 235 240
 50 Leu Phe Glu His Pro Glu Ala Asn Gly Arg Tyr Ile Cys Ser Ser His
 245 250 255
 Asp Ala Thr Ile His Gly Leu Ala Arg Met Leu Gln Asp Arg Phe Pro
 260 265 270
 55 Glu Tyr Asp Ile Pro Gln Lys Phe Ala Gly Val Asp Asp Asn Leu Gln
 275 280 285
 Pro Ile His Phe Ser Ser Lys Lys Leu Leu Asp His Gly Phe Ser Phe
 290 295 300
 60

Arg Tyr Thr Thr Glu Asp Met Phe Asp Ala Ala Ile His Thr Cys Arg
 305 310 315 320
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 25 Val Ile Gly Thr Val Arg Asp Pro Ser Asn Arg Glu Lys Val Ser His
 35 40 45
 30 Leu Trp Arg Leu Pro Ser Ala Lys Glu Arg Leu Gln Leu Val Arg Ala
 50 55 60
 Asp Leu Met Glu Glu Gly Ser Phe Asp Asp Ala Val Met Ala Cys Glu
 65 70 75 80
 35 Gly Val Phe His Thr Ala Ser Pro Val Leu Ala Lys Ser Asp Ser Asn
 85 90 95
 Cys Lys Glu Glu Met Leu Val Pro Ala Ile Asn Gly Thr Leu Asn Val
 100 105 110
 40 Leu Lys Ser Cys Lys Lys Asn Pro Phe Leu Lys Arg Val Val Leu Thr
 115 120 125
 45 Ser Ser Ser Ser Thr Val Arg Ile Met Asp Glu Ser Lys His Pro Glu
 130 135 140
 Ile Ser Leu Asp Glu Thr Ile Trp Ser Ser Val Ala Leu Cys Glu Lys
 145 150 155 160
 50 Leu Gln Leu Trp Tyr Ala Leu Ala Lys Ile Ser Ala Glu Lys Ala Ala
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 Trp Glu Phe Ala Lys Glu Asn Asn Ile Asp Leu Val Thr Val Leu Pro
 180 185 190
 55 Ser Phe Val Ile Gly Pro Ser Leu Ser His Glu Leu Ser Val Thr Ala
 195 200 205
 60 Ser Asp Ile Leu Gly Leu Leu Gln Gly Asp Thr Asp Arg Phe Ile Ser
 210 215 220

Tyr Gly Arg Met Gly Tyr Val His Ile Asp Asp Val Ala Ser Cys His
 225 230 235 240
 5 Ile Leu Val Tyr Glu Ala Pro Gln Ala Thr Gly Arg Tyr Leu Cys Asn
 245 250 255
 Ser Val Val Leu Asp Asn Asn Glu Leu Val Ala Leu Leu Ala Lys Gln
 260 265 270
 10 Phe Pro Ile Phe Pro Ile Pro Arg Ser Leu Arg Asn Pro Tyr Glu Lys
 275 280 285
 15 Gln Ser Tyr Glu Leu Asn Thr Ser Lys Ile Gln Gln Leu Gly Phe Lys
 290 295 300
 Phe Lys Gly Val Gln Glu Met Phe Gly Asp Cys Val Glu Ser Leu Lys
 305 310 315 320
 20 Asp Gln Gly His Leu Leu Glu Cys Pro Leu
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 25 <210> 21
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 35 40 45
 40 His Leu Leu Glu Leu Pro Gln Ala Ala Thr Arg Leu Thr Leu Trp Lys
 50 55 60
 Ala Asp Leu Asp Val Glu Gly Ser Phe Asp Glu Ala Ile Lys Gly Cys
 65 70 75 80
 45 Thr Gly Val Phe His Val Ala Thr Pro Met Asp Phe Glu Ser Glu Asp
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 50 Pro Glu Asn Glu Val Ile Lys Pro Thr Ile Asn Gly Met Leu Asp Ile
 100 105 110
 Met Lys Ala Cys Leu Lys Ala Lys Thr Val Arg Arg Leu Val Phe Thr
 115 120 125
 55 Ser Ser Ala Gly Ala Val Ala Ile Glu Glu His Pro Lys Glu Val Tyr
 130 135 140
 Ser Glu Asn Asn Trp Ser Asp Val Val Phe Cys Arg Lys Val Lys Met
 145 150 155 160
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Thr Gly Trp Met Tyr Phe Val Ser Lys Thr Leu Ala Glu Gln Ala Ala
 165 170 175
 5 Trp Lys Phe Ala Lys Glu Asn Asn Ile Asp Phe Ile Thr Ile Ile Pro
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 Thr Leu Val Ile Gly Pro Phe Leu Ala Pro Ser Met Pro Pro Ser Leu
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 10 Ile Ser Gly Leu Ser Pro Leu Thr Gly Asn Glu Ala His Tyr Gly Ile
 210 215 220
 Ile Lys Gln Cys Gln Tyr Val His Leu Asp Asp Leu Cys Gln Ser His
 225 230 235 240
 15 Ile Phe Leu Tyr Glu His Ala Lys Ala Glu Gly Arg Tyr Ile Cys Ser
 245 250 255
 20 Ser His Asp Ala Thr Ile His Asp Ile Ala Lys Leu Leu Asn Glu Lys
 260 265 270
 Tyr Pro Lys Tyr Asn Val Pro Lys Lys Phe Lys Gly Ile Glu Glu Asn
 275 280 285
 25 Leu Thr Asn Ile His Phe Ser Ser Lys Lys Leu Lys Glu Met Gly Phe
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 Glu Phe Lys His Ser Leu Glu Asp Met Phe Thr Gly Ala Val Asp Ala
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 35 Lys Arg Arg Ala Gly
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 <213> Zea mays
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 35 40 45
 55 Leu Trp Lys Leu Pro Gly Ala Lys Glu Arg Leu Gln Ile Val Arg Ala
 50 55 60
 Asn Leu Leu Glu Glu Gly Ser Phe Asp Ser Ala Val Met Ala Cys Glu
 65 70 75 80
 60 Gly Val Phe His Thr Ala Ser Pro Val Leu Ala Lys Pro Asp Ser Thr

| | 85 | | | | | | | | 90 | | | | 95 | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | Ser | Lys | Glu | Asp | Thr | Leu | Val | Pro | Ala | Val | Asn | Gly | Thr | Leu | Asn | Val |
| | | | | 100 | | | | | 105 | | | | | 110 | | |
| 10 | Leu | Arg | Ser | Cys | Lys | Lys | Asn | Pro | Phe | Leu | Lys | Arg | Val | Val | Leu | Thr |
| | | | 115 | | | | | 120 | | | | | 125 | | | |
| 15 | Ser | Ser | Ser | Ser | Ala | Val | Arg | Ile | Arg | Asp | Asp | Gly | Gly | Gln | Ser | Ser |
| | | 130 | | | | | 135 | | | | | 140 | | | | |
| 20 | Asn | Ile | Ser | Leu | Asp | Glu | Thr | Thr | Trp | Ser | Ser | Val | Pro | Leu | Cys | Glu |
| | 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| 25 | Lys | Met | His | Leu | Trp | Tyr | Ala | Leu | Ala | Lys | Val | Phe | Ala | Glu | Lys | Ala |
| | | | | | 165 | | | | | 170 | | | | | 175 | |
| 30 | Ala | Trp | Glu | Phe | Ala | Lys | Glu | Asn | Gly | Ile | Asp | Leu | Val | Thr | Val | Leu |
| | | | | 180 | | | | | 185 | | | | | 190 | | |
| 35 | Pro | Ser | Phe | Val | Ile | Gly | Pro | Ser | Leu | Ser | His | Glu | Leu | Cys | Val | Thr |
| | | | 195 | | | | | 200 | | | | | 205 | | | |
| 40 | Ala | Ser | Asp | Val | Leu | Gly | Leu | Phe | Gln | Gly | Asp | Thr | Ala | Arg | Phe | Ser |
| | | 210 | | | | | 215 | | | | | 220 | | | | |
| 45 | Ser | Tyr | Gly | Arg | Met | Gly | Tyr | Val | His | Ile | Asp | Asp | Val | Ala | Ser | Ser |
| | 225 | | | | | 230 | | | | | 235 | | | | | 240 |
| 50 | His | Ile | Leu | Val | Tyr | Glu | Val | Pro | Gln | Ala | Ala | Gly | Arg | Tyr | Leu | Cys |
| | | | | | 245 | | | | | 250 | | | | | 255 | |
| 55 | Ser | Ser | Val | Val | Leu | Asp | Asn | Asp | Glu | Leu | Val | Ser | Ser | Leu | Ala | Lys |
| | | | | 260 | | | | | 265 | | | | | 270 | | |
| 60 | Arg | Tyr | Pro | Ile | Phe | Pro | Ile | Pro | Arg | Arg | Leu | Asn | Ser | Pro | Tyr | Gly |
| | | | 275 | | | | | 280 | | | | | 285 | | | |
| 65 | Lys | Gln | Ser | Tyr | Gln | Leu | Asn | Thr | Ser | Lys | Leu | Gln | Gly | Leu | Gly | Phe |
| | | 290 | | | | | 295 | | | | | 300 | | | | |
| 70 | Lys | Phe | Arg | Gly | Val | Gln | Glu | Met | Phe | Asp | Asp | Cys | Val | Gln | Ser | Leu |
| | 305 | | | | | 310 | | | | | 315 | | | | | 320 |
| 75 | Lys | Asp | Gln | Gly | His | Leu | Leu | Glu | Cys | Pro | Leu | | | | | |
| | | | | | 325 | | | | | 330 | | | | | | |